At the Graphics Forefront
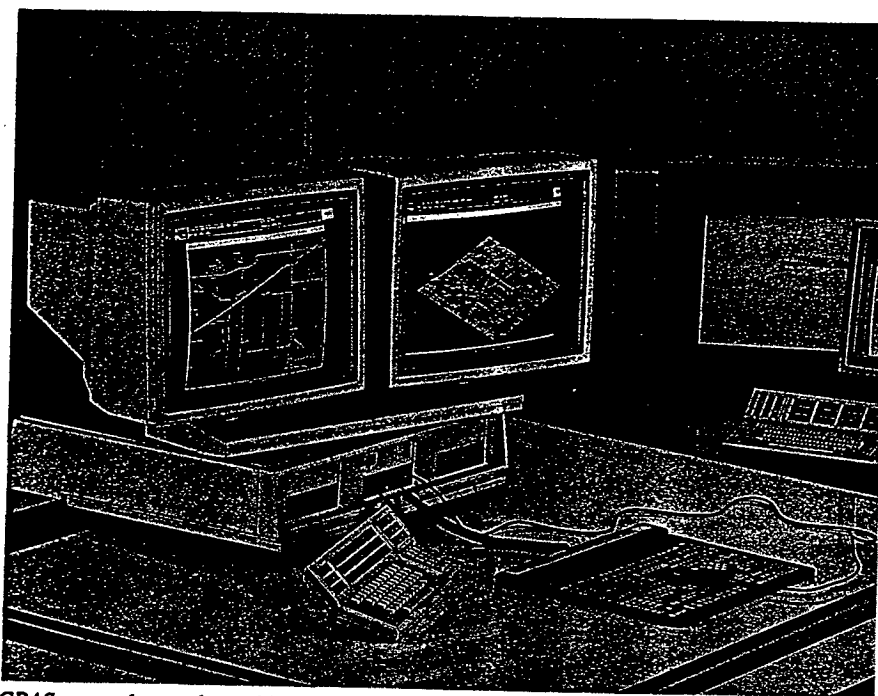
CPAS and Its Designing Ways

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Graphics are essential to an effective intelligence product or briefing. The Design and Cartography Centers of the Office of Current Production and Analytic Support (CPAS) are dedicated to providing high-quality graphics — line art, charts, illustrations, photography, and maps — for the full spectrum of the Agency's intelligence products. (U)

The two centers use two distinct, sophisticated graphics workstations. The Design Center, tasked with producing graphics for briefings and finished intelligence, uses Genigraphics workstations. The Cartography Center, tasked with producing high-quality maps for presentations and finished intelligence, uses Intergraph Corporation workstations. These systems produce full-color, publication-quality vugraphs, slides, and hard copy. (U)

Design Center's Computer Images Branch (CIB), in GH-12 Headquarters, uses the Genigraphics system to produce charts, photographs, and illustrations required for briefings. This

CPAS uses advanced graphics systems, like this Intergraph workstation, to produce precision maps and charts. (U)

workstation can best be described as an artist's tool — a virtual electronic design studio. Genigraphics is considered to be a "high-end" graphics workstation, that is, it has complex and powerful professional design capabilities. Designers need about a month of training before becoming proficient in the system's use. Genigraphics preserves scanned image quality and resolution, allows for flexibility in manipulating data, and manages the large volume of vugraphs and slides needed by the Agency. (U)

The Genigraphics system uses on-screen, pull-down menus. You communicate with the workstation via a keyboard and a pen tablet, an electronic pad and pen connected to the central processing unit, much the way a mouse interfaces with a personal computer. The pen tablet selects functions that range from simple line drawings to complex color shading to object manipulation. The system also includes the following features:

- A graph generator that creates any type of graph from a data base.

- A color, high-resolution monitor that displays 256 colors out of a possible 16 million.

- Paint Framegrab hardware and software that manipulate and enhance scanned photographs and images.

- A film recorder that produces vugraph and 35-mm slide films. The films are sent to the Printing and Photography Group (P&PG) to be processed in the color film lab. Non-color hard copies of the presentation can be generated at the workstation on a laser printer or a Tektronix output device. (U)

The regional branches in the Cartography Center, located in GH-19, have several options for producing briefing materials. If the desired map exists, it can be sent to P&PG and made into a vugraph or 35-mm slide. Sometimes, additions or minor modifications can be made to the map before reproduction. (U)

When an entirely new product is required, the cartographer often uses the Interactive Cartographic Analysis Design and Drafting System (ICADDS), an Intergraph mapping workstation. ICADDS produces digitally generated maps and enhances them with high-quality typefaces and color. Intergraph's newest graphics software, Distributed Publishing, or DP-Paint, is similar to many of the personal computer paint programs. Once the map is completed, it is then sent to an output device for a vugraph, 35-mm slide, or paper plot. (See opposite page.) (U)

Often, CPAS uses a combination of techniques to satisfy a complex mapping requirement in a timely way. When choosing a particular technique, the cartographer weighs factors such as size, complexity, and time against other priorities, workloads, and equipment capabilities. (U)

The CPAS Graphics Process

1. Requester determines need for briefing materials and receives authorization to task Cartographic and Design Publication Group (CDPG). (U)

2. Chart, graph, and photo requests are brought to the Design Center. Maps are brought to the Cartography Center. Deadlines for the graphics and maps are determined. (U)

3. The Computer Images Branch creates and generates the graphics on the Genigraphics system. (U)

4. The Cartography Center assigns the maps to the appropriate regional branch and processes the map using ICADDS. (U)

Design Center:
Cartography Center:

Design and Cartography
Systems, Uses, and Output Options

Genigraphics

Word Charts
Pie, Bar, Line Charts
Photographs
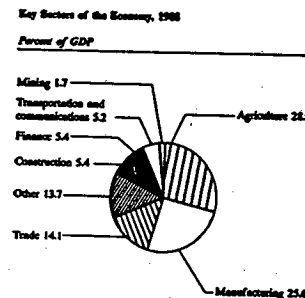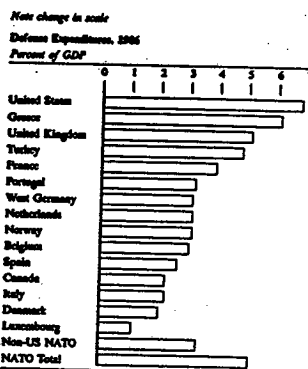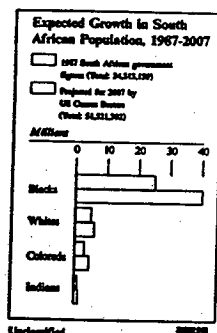**Technical or Artistic**
 Rendering (U)

Output Options

- 35-mm color slide film.
- Ektachrome vugraph film.
- 300 dots-per-inch laser printer.
- Resin-Coated (RC) paper.
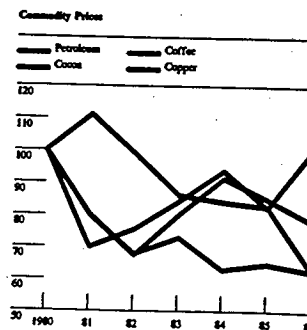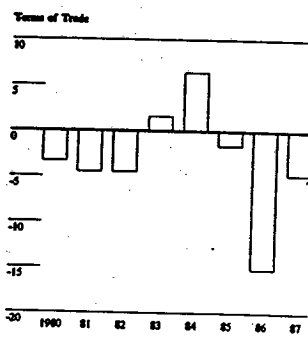- Tektronix hard copy unit. (U)

Intergraph

Maps
Word Charts
Pie, Bar, Line Charts
Technical or Artistic
 Rendering (U)

Output Options

- Clear film positive or negative.
- Polaroid film (vugraph or 8 x 10 print).
- Ektachrome vugraph film.
- 35-mm color slide film.
- Shinko 100 dots-per-inch color printer.
- 300 dots-per-inch laser printer.
- Hewlett-Packard pen plotter. (U)

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